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I hereby center that the Correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: May 9, 2005

Signature:

Docket No.: 29936/39851

(PATENT)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Ihl Hyun Cho

Application No.: 10/748,721

Confirmation No.: 7533

Filed: December 30, 2003

Art Unit: 1762

For:

METHOD OF FORMING METAL LINE OF

Examiner: Not Yet Assigned

SEMICONDUCTOR DEVICE

## SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)).

A copy of only those references listed below is attached:

For. Doc No.	Ctry	Patentee/Applicant	Publication Date
1999-0059087	KR		July 26, 1999
2002-0034373A	KR	Hynix Semiconductor Inc.	May 9, 2002

A summary of the non-English language reference (1999-0059087) is as follows. Korean Patent Application No. 1999-0059087 is directed to a method of forming metal line semiconductor device. The present invention relates to a method of forming metal wiring using a metal, like copper, having high conductivity in a semiconductor device, the method comprising the steps of: forming a metal layer of a dual structure comprising a first

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metal layer and a second metal layer connecting lower metal wiring and upper metal wiring; depositing by chemical vapor deposition (CVD) to deposit a material having high conductivity; converting the second metal layer into a more stable material thermodynamically by heat processing under the nitrogenous atmosphere; and completing the upper metal wiring by chemical mechanical planarization (CMP), thereby enhancing contact resistance of oxidation of the upper and lower metal wiring and at the same time preventing oxidation of the upper metal wiring to enhance electric characteristic of the electrode.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 13-2855, under Order No. 29936/39851. A duplicate copy of this paper is enclosed.

Dated: May 9, 2005

Respectfully submitted,

Micha

Registration No.: 35,902

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tion Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

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## **SUPPLEMENTAL**

INFORMATION DISCLOSURE STATEMENT BY APPLICANT of

Complete if Known				
Application Number	10/748,721-Conf. #7533			
Filing Date	December 30, 2003			
First Named Inventor	Ihl Hyun Cho			
Art Unit	1762			
Examiner Name	Not Yet Assigned			
Attorney Docket Number	29936/39851			

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.1	Document Number  Number-Kind Code <sup>2</sup> ( <i>if known</i> )	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

	FOREIGN PATENT DOCUMENTS					
Examiner	Cite	Foreign Patent Document	Publication	Name of Patentee or	Pages, Columns, Lines,	
Initials* No.1	Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)	Date MM-DD-YYYY	Applicant of Cited Document	Where Relevant Passages or Relevant Figures Appear		
		KR-1999-0059087	07-26-1999		-	
		KR-2002-0034373	05-09-2002	Hynix Semiconductor Inc.	English Abstract Only	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at <a href="https://www.uspto.gov">www.uspto.gov</a> or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>	
		Office Action issued by the Korean Intellectual Property Office dated April 1, 2005	I	

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Examiner	Date
Signature	Considered

<sup>&</sup>lt;sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.